



Subject Overview - Maths

Aim high & be a Star

Our curriculum

The curriculum is built on the foundation that knowledge will build on knowledge so that children know and remember more over their school journey. To achieve this, the curriculum must be grounded in educational research to ensure that it is a driver to success. The overview below states how our mathematics curriculum achieves this.



Teaching and Learning Cycle

The sunshine model outlines the effective delivery of information over the course of a lesson. It allows for recapping of prior knowledge; the sharing of information; the use of assessment to check understanding; the opportunity to practise whilst being supported through Scaffolding and the review of learning which will inform the next steps in learning. This cycle of learning should be viewed alongside the Aspire values and Aspire learning skills.



Purpose

At Greenways Primary, we truly believe that the language of mathematics is international and that the basic knowledge components of mathematics are vital for the life opportunities of our children. Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It provides children with a foundation for understanding the world around us and to build enjoyment and curiosity.

With this in mind, our vision is to equip all of our children with the tools required to think mathematically and calculate fluently, enabling them to reason and solve problems in a range of different contexts. We aim to foster a love of mathematics by unlocking every child's mathematical potential. Through a concrete, pictorial and abstract approach, the children at Greenways Primary are afforded opportunities to experience a sense of awe and wonder as they solve a problem for the first time, discovering different solutions and making links between different areas of mathematics.



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Aim high & be a Star

Aims

The key aims of our mathematics curriculum are outline below.

To be competent in:

- Numbers and number systems.
- Calculations, both mental and written.
- Measurement of shape and space.
- Handle data and solve problems in all these areas
- Using algebra to problem solve with number
- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
- To make links between the different areas of mathematics.
- To be familiar with a number of different mathematical representations and use them to support with problem-solving and reasoning.
- To develop the ability to solve problems through decision making and reasoning in a range of contexts.
- To explore features of shape and space, and develop measuring skills in a range of contexts.
- To understand the importance of mathematics in everyday life.
- To develop flexible problem-solving behaviours.
- To ensure that all children will develop the necessary maths skills and knowledge.

Dashboards

To support teachers in planning maths, we use dashboards to show clear progression within content, skill and knowledge.

All teachers access and utilise the dashboards to identify what their year group expectations are, where learning has come from and also what we teach which is beyond the NC year group expectations.



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Aim high & be a Star

Planning & the National Curriculum

Mathematics is a core subject in the National Curriculum and we use the National Curriculum as the basis for implementing the statutory requirements of the programme of study for mathematics.

In EYFS, staff use the Early Years Framework as a basis for teaching maths in their classrooms. Pupils in Nursery and Reception follow the White Rose Maths programme of learning to provide all pupils with a visual and practical learning experience which is inline with their age range.

The primary National Curriculum gives a detailed outline of what we teach in the long term, identifying the key objectives for each year group/stage.

Our programme of study for mathematics clearly sets out what will be taught and learned at each point in the year for all year groups. We understand that a carefully planned coherent curriculum will enable pupils to know more and remember more. Our long-term overviews for maths are inline with White Rose Maths unit coverage. This clearly sets out the order and the time scale for the teaching of mathematical units for each year group. These units are all broken down into 'small steps', which are the individual lessons that teachers deliver. These 'small steps' are progressive, building on content from previous year groups. The language, strategies and visual representations to support learning are also progressive through the use of the White Rose Maths teaching resources. In addition to the WRM content, we have identified where we feel more formal methods should be introduced and have gone beyond the NC expectations in some year groups.

The tasks for each lesson are progressive, starting with more fluency-based tasks and leading to problem-solving and reasoning style questions. Children carry out their learning in workbooks; however, children also have their own maths exercise book. During lessons, teachers carry out assessments for learning to identify children who may need support or further fluency practice. When this is identified children are provided with additional fluency tasks which they will then complete in their maths exercise book. Challenge tasks are provided for children, which will be completed in their exercise book.



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Aim high & be a Star

Teaching and Learning Style:

During lessons, we encourage children to ask, as well as answer mathematical questions, and we promote the use of mathematical language through the use of intentional and consistent language that promotes challenge and aspirations. Teacher-led inputs use a concrete, pictorial, abstract approach to support children's understanding based on cohort needs.

Children encounter a wide range of resources such as: number lines, number squares, digit cards and small apparatus to support their work that are progressive. Wherever possible, we encourage the children to use and apply their learning in everyday situations and demonstrate 'Mastery' through planning extension tasks using reasoning and mastery tools such as White Rose Maths to deepen their knowledge and understanding and to challenge their thinking. White Rose Maths teaching tools such as powerpoints are not used for the main delivery of content within classes. Resources are used as support material where required, but lesson plans are bespoke to the cohort and provide opportunities for additional practise and rehearsal when needed.

In all classes, there are children of differing mathematical ability. We recognise this fact and use adaptive teaching to ensure we provide suitable learning opportunities for all. We achieve this through a range of strategies – in some lessons through the provision of further practice of fluency skills or through the addition of further challenge activities. We also provide additional support or challenge through teacher-led group support. We use classroom assistants to support and challenge children and to ensure that work is matched to the needs of individuals.

Special Education Needs:

Through the equal opportunities policy, pupils with special educational needs are included in all mathematics lessons. Staff, where appropriate, will modify activities to ensure children with special educational needs access the same mathematical curriculum as their peers. Teachers adapt lessons, whilst maintaining high expectations for all, so that all pupils have the opportunity to meet expectations. Scaffolding and support may also be provided through the provision of concrete and pictorial resources.



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Aim high & be a Star

Assessment

At Greenways Primary we understand that effective assessment is critical to teaching. Assessment is utilised as a tool to check for prior knowledge and understanding, it enables staff to identify misconceptions and gaps and to provide high quality feedback for pupils.

Assessment within mathematics will be made using:

- Teacher assessment within lesson through questioning, marking and feedback
- Termly assessment
- End of Unit assessments
- Class based discussion
- Work within exercise books
- End of Key Stage 2 SATs assessments

Each half term, children are encouraged to be reflective learners and are given the time to identify what they feel has gone well and is a particular strength in maths, as well as identify what they feel they still need to work on and develop. These are supported through pupil-teacher discussions.

In the foundation classes, the children are constantly assessed against the Early Learning Goals through while exploring and accessing carefully planned provision.